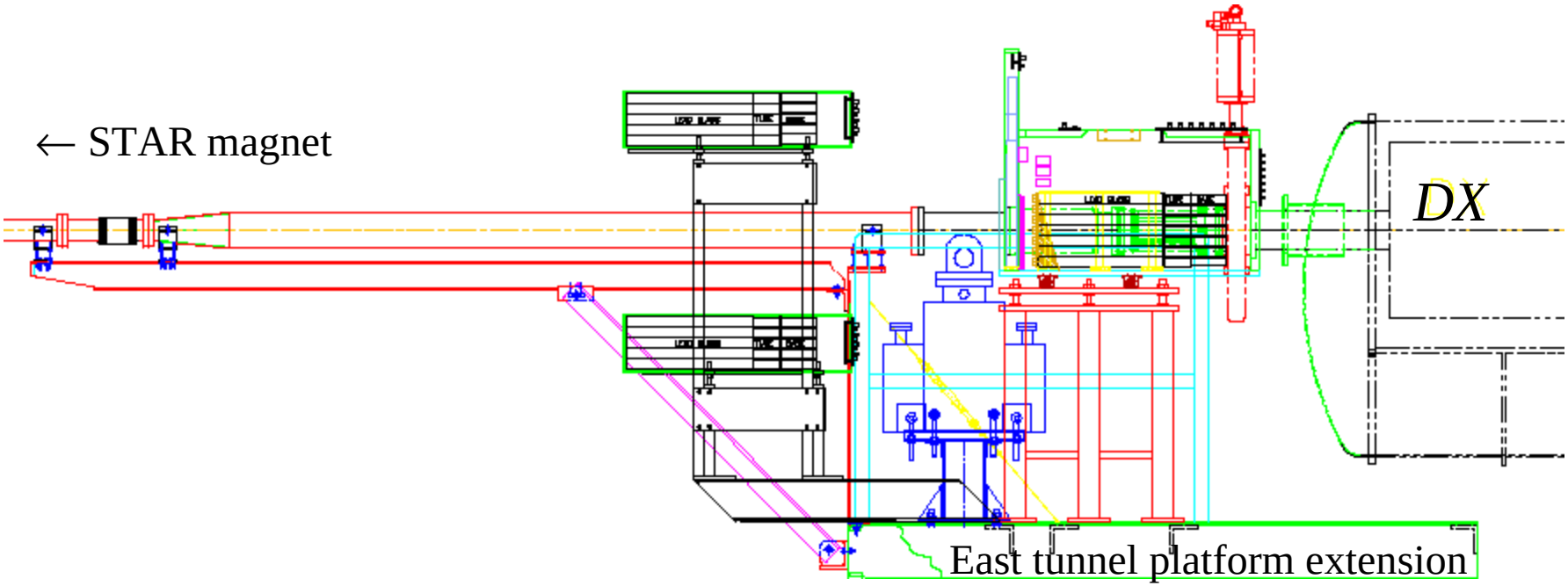
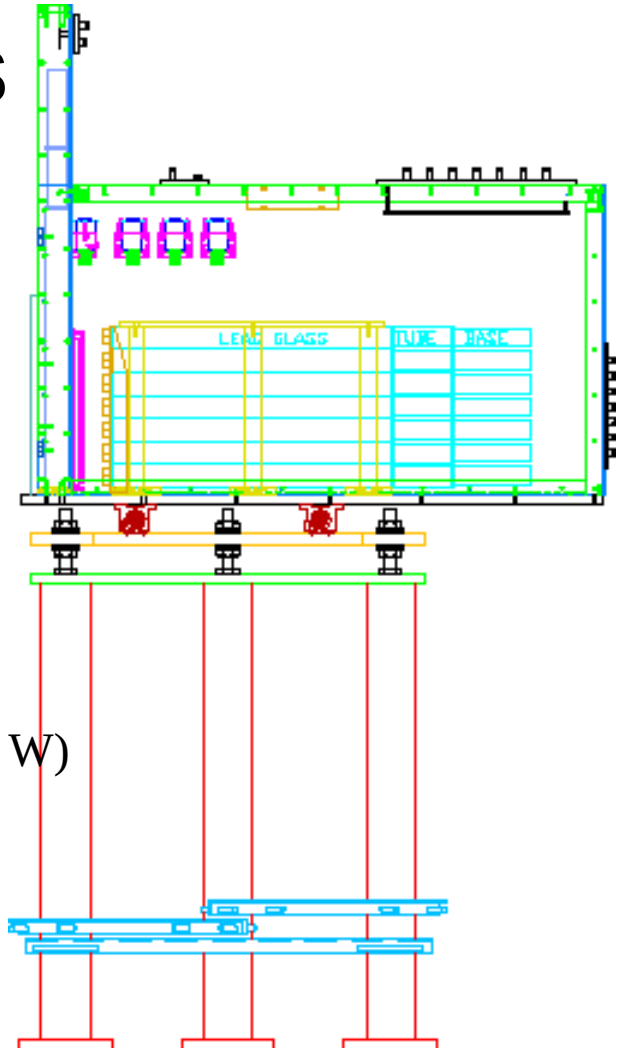
STAR Forward π^0 Detector



- Electromagnetic calorimeters mounted on east (west) tunnel platform extensions.
- Similar to prototype arrangement used for RHIC run 2 excluding Pb-scintillator calorimeter.
- Expected complete installation of north/south and up/down calorimeters on east side.
- Partial installation on west side: north/south calorimeters only.

FPD North/South Calorimeters



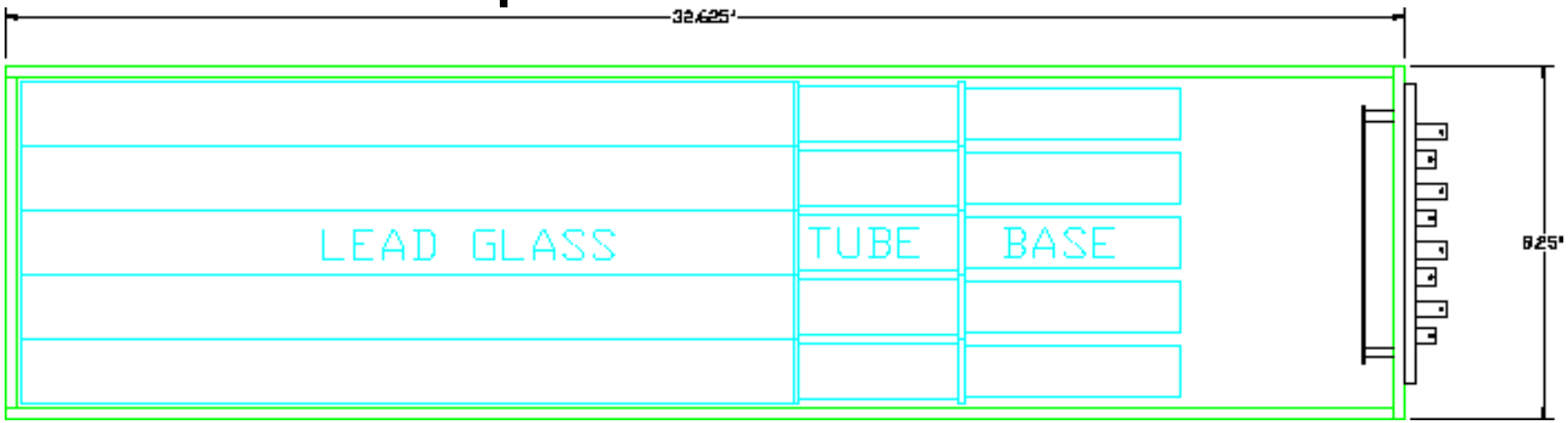
Light-tight box enclosing…

- Pb-glass calorimeters…
  - o 7×7 matrix of 3.7cm× 3.7cm×45cm Pb-glass
  - o FEU-84 photomultipliers (PMT) + resistive bases (0.2 W)
  - o glass + PMT + resistive bases used in Run-2 prototype
- North/South shower maximum detector…
  - o two orthogonal 48-element scintillator strip planes
  - o 0.83mm diameter wave-length shifting fiber light collection
  - o Hamamatsu H8711 multi-anode PMT + resistive base (0.35 W)
  - o similar to detector used in Run-2 prototype
- Preshower detector…
  - o encased Pb converter
  - o 7-element array of 3.7cm× 3.7cm×45cm Pb-glass

Electronics grounded to south platform (box/stand locally grounded)…

- o in racks on east and west walls of Wide Angle Hall
- o cabling with CL-2 rated insulation to detector and south platform
- o commercial LeCroy 1440 high-voltage supply
- o digitizer boards and FPGA boards used elsewhere for STAR trigger

FPD Up/Down Calorimeters



- Light-tight box enclosing Pb-glass calorimeters…
  - o 5×5 matrix of 3.7cm× 3.7cm×45cm Pb-glass
  - o FEU-84 photomultipliers (PMT) + resistive bases (0.2 W)
  - o glass + PMT + resistive bases used in Run-2 prototype
- Uses same support stand as used with Run-2 prototype
- *in situ* assembly of up/down calorimeters following procedure used for Run-2 prototype